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16

H8S Series User System Interface Cable

For H8S Series Compact Emulator

Microcomputer Development Environment System

User's Manual

2003.4

Renesas System Solutions Asia Pte. Ltd.
www.rss.renesas.com

Microcomputer
Development Environment System

CE2000

H8S Series User System Interface Cable
For H8S/2214 TBP-112
User's Manual

Renesas System Solutions Asia Pte. Ltd.

H8S Series User System Interface Cable for Compact Emulator
User's Manual

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Do not attempt to use the emulator product until you fully understand its mechanism.

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Throughout this document, the term 'emulator product' shall be defined as the following products produced only by Renesas System Solutions Asia Pte. Ltd.:

- Emulation system (SD01CE2238)
- User system interface cable (SD01UC2214TB2)
- User system interface cable (SD01UC2238FA0B)
- User system interface cable (SD01UC2215TC0)

The user system or a host computer is not included in this definition.

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This emulator product is a software and hardware development tool for systems employing the H8S series microcomputer. This emulator product must only be used for the above purpose.

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Figures:
Some figures in this user's manual may show items different from your actual system.

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Renesas cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this user's manual and on the emulator product are therefore not all inclusive. Therefore, you must use the emulator product safely at your own risk.

PREFACE

About this manual
This manual explains how to link the user cable to the Compact Emulator.

Section 1 Introduction
Gives a highlight to the system package and specification.

Section 2 Connection Procedures
Explains how to link the user system to the emulator via the user cable.

Section 3 Dimensions of User System Cable Head
Details the dimensions of the user system cable head needed.

Section 4 Installing MCU to the User System
Describes the steps involved to place the MCU into the socket.

Section 5 Warning
Emphasizes the precautionary measures when handling the user cable.

Assumptions

This manual assumes that the user has a working knowledge of

- Renesas Compact Emulator
- General Hardware Interface Circuitry

Related Manuals:

- Compact Emulator User's Manual
- H8S/2214, H8S/2214 F-ZTAT Series Hardware Manual

Table of Contents

SECTION 1. INTRODUCTION 1

1.1 GENERAL DESCRIPTION 1
1.2 IC SOCKET TYPE 1
1.3 CONFIGURATION 2
1.4 COMPONENTS 2

SECTION 2. CONNECTION PROCEDURES 3

2.1 CONNECTING USER SYSTEM INTERFACE CABLE TO EMULATOR 3
2.2 CONNECTING USER SYSTEM INTERFACE CABLE TO USER SYSTEM 4
2.2.1 Soldering IC Socket 4
2.2.2 Using Target Clock 5

SECTION 3. DIMENSIONS OF USER SYSTEM CABLE HEAD 6

SECTION 4. INSTALLING MCU TO THE USER SYSTEM 8

SECTION 5. WARNINGS 9

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List of Figures

Figure 1.1 SD01UC2214TB2 User System Interface Cable 2
Figure 2.1 Connect User System Interface Cable to Emulator 3
Figure 2.2 Connecting User System Interface Cable to User System 4
Figure 2.3 Clock Selection 5
Figure 3.1 PCB Footprint of User System Interface Cable Head 6
Figure 3.2 User System Interface Cable Head 7
Figure 3.3 Connecting User System Interface Cable to User System 7
Figure 4.1 Installing MCU to User System 8

Section 1. Introduction

1.1 General Description

The user system interface cable (SD01UC2214TB2) connects the Compact Emulator (CE2000-H8S/2238) to the IC socket for a TBP 112-pin package.

This user cable is able to support the following devices:

- H8S/2214
- H8S/2236
- H8S/2238

1.2 IC Socket Type

The recommended IC socket used on the user system is from Daimaru Kogyo Ltd. The part number for the TBP 112-pin package IC socket is given below:

- **DSPACK112A1110H01**

1.3 Configuration

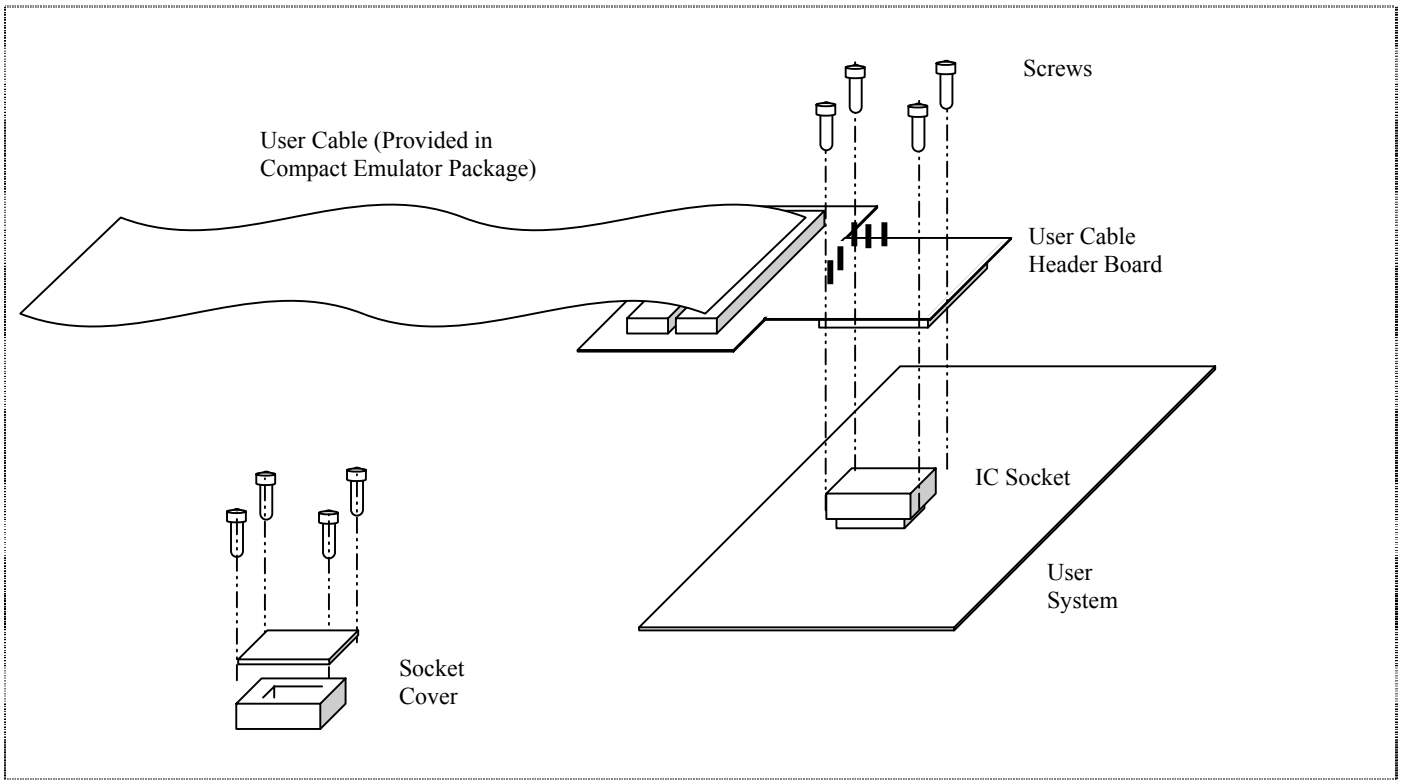

Figure 1.1 SD01UC2214TB2 User System Interface Cable

- Align pin 1 of the Adapter of user cable header to IC socket on the user system.
- Installs Adapter to the socket with tightened screws.
- Connects the other ends of the 2x80-way connectors from the compact emulator to the user cable header board.

1.4 Components

No.	Component	Quantity	Remarks
1	User cable header board	1	
2	IC socket	1	For TBP 112-pin package
3	Socket cover	1	For installing the MCU
4	Screws	4	For fastening cable head (with four flat washers)

Note: The 2x80-way user cable assemblies are already provided in the Compact Emulator package.

Section 2. Connection Procedures

WARNING: Always switch OFF the user system and the emulator product before the USER SYSTEM INTERFACE CABLE is connected to or removed from either of the boards. Before connecting, make sure that pin 1 is correctly aligned. Failure to do so may result in a FIRE HAZARD, which may damage the user system and the emulator product. PERSONAL INJURY may also be resulted.

2.1 Connecting User System Interface Cable to Emulator

To connect the cable body to the emulator, follow the instructions below:

- Make sure the user system and emulator are powered off.
- Open the cover at the bottom of the emulator.
- Align the connectors on the cable body with those on the emulator according to the specified number, insert the cable body connectors to those on the emulator until they are locked. Refer to figure 2.1.

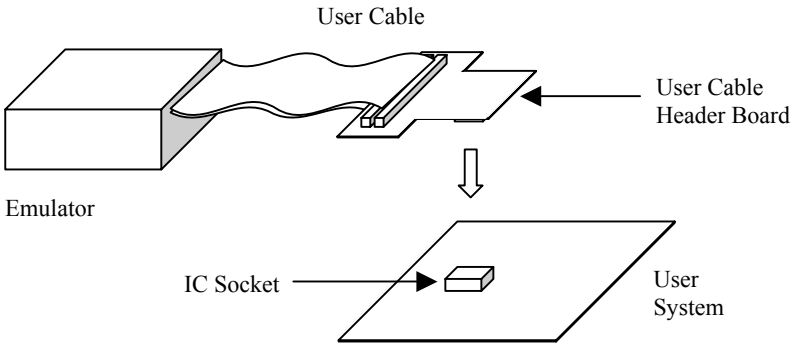

Figure 2.1 Connect User System Interface Cable to Emulator

2.2 Connecting User System Interface Cable to User System

2.2.1 Soldering IC Socket

- Apply epoxy resin adhesive to the corner guides and bottom face of an IC socket for the TBP 112-pin package and fasten it to the user system.

- Align pin 1 on the IC socket with pin 1 on the user system interface cable head, and insert the user system interface cable head into the IC socket on the user system as shown in figure 2.2.

- Fasten the user system interface cable to the IC socket on the user system with the four screws provided. Each screw should be tightened a little at a time, alternating between screws on opposite corners. Use special care to prevent the soldered IC socket from being damaged by over-tightening the screws or twisting the components.

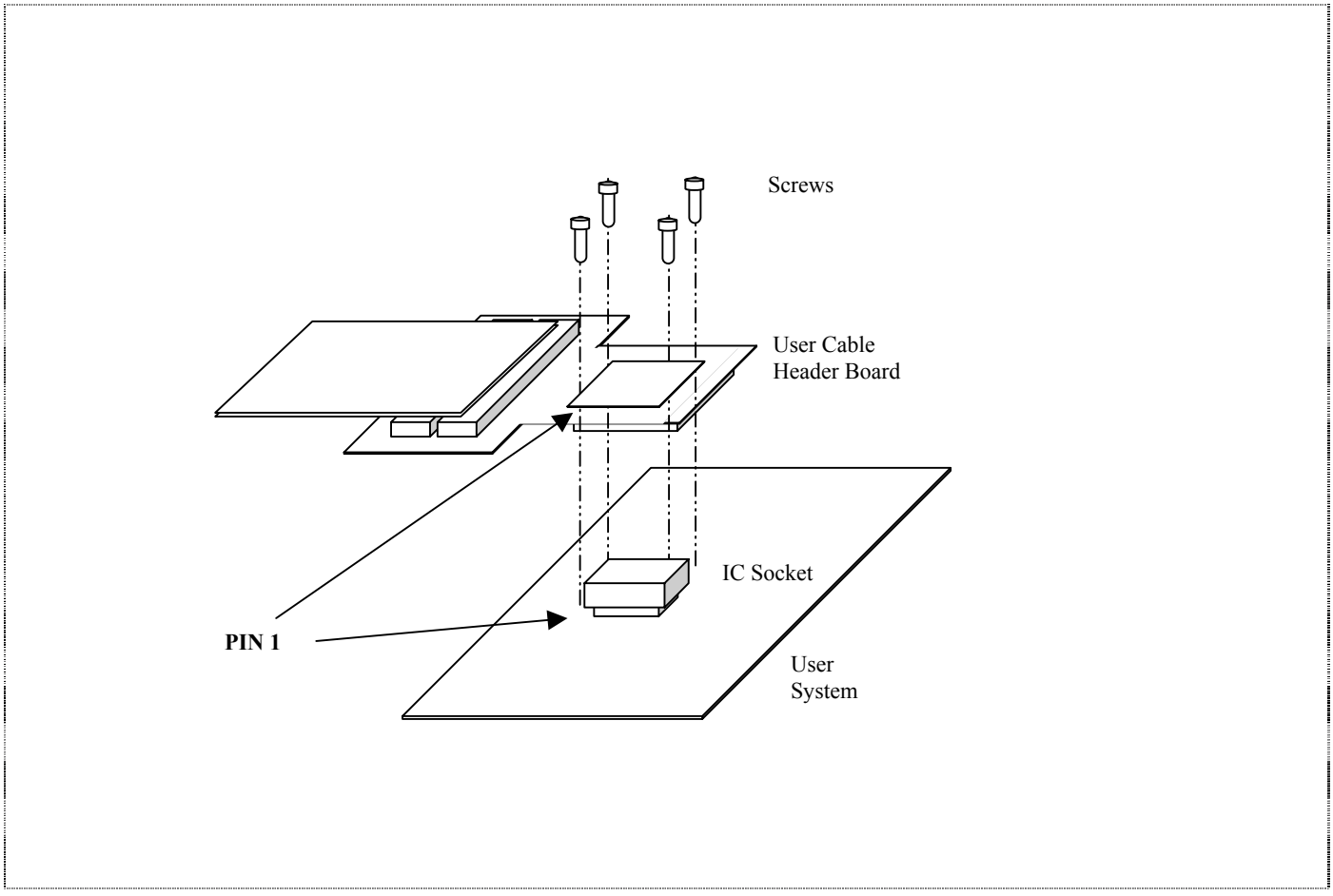

Figure 2.2 Connecting User System Interface Cable to User System

2.2.2 Using Target Clock

The user cable supports the use of crystal as the main clock. In default, the jumper is set to the target crystal. Input for clock signal is also provided. Please refer to figure 2.3.

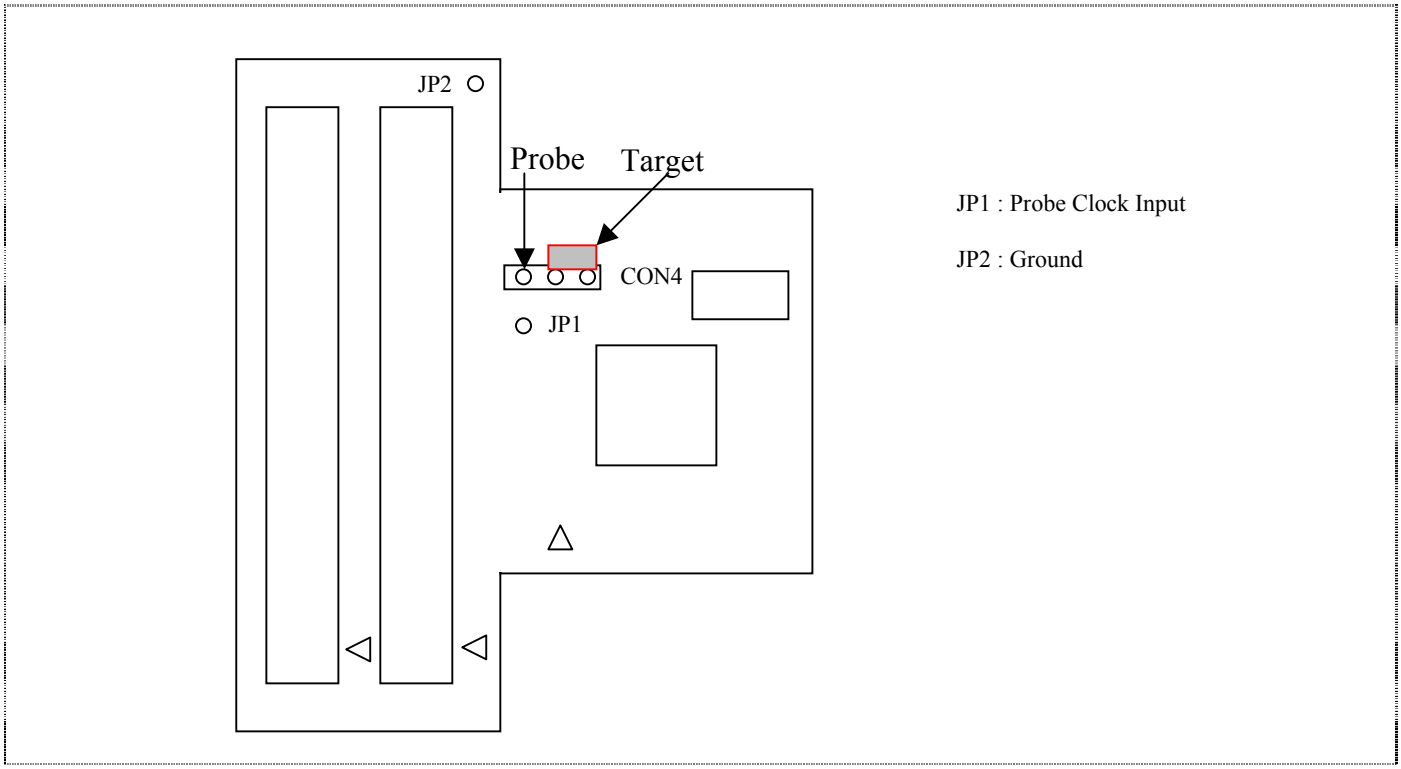

Figure 2.3 Clock Selection

If user intends to input clock signal, fix the jumper [CON4] at the "Probe" selection. User has to ensure correct signal level while injecting the clock signal at JP1 with respect to the grounding point at JP2.

Section 3. Dimensions of User System Cable Head

The dimensions of the recommended footprint for the TBP 112-pin package (manufactured by Daimaru Kogyo Ltd.) on the user system are given in figure 3.1.

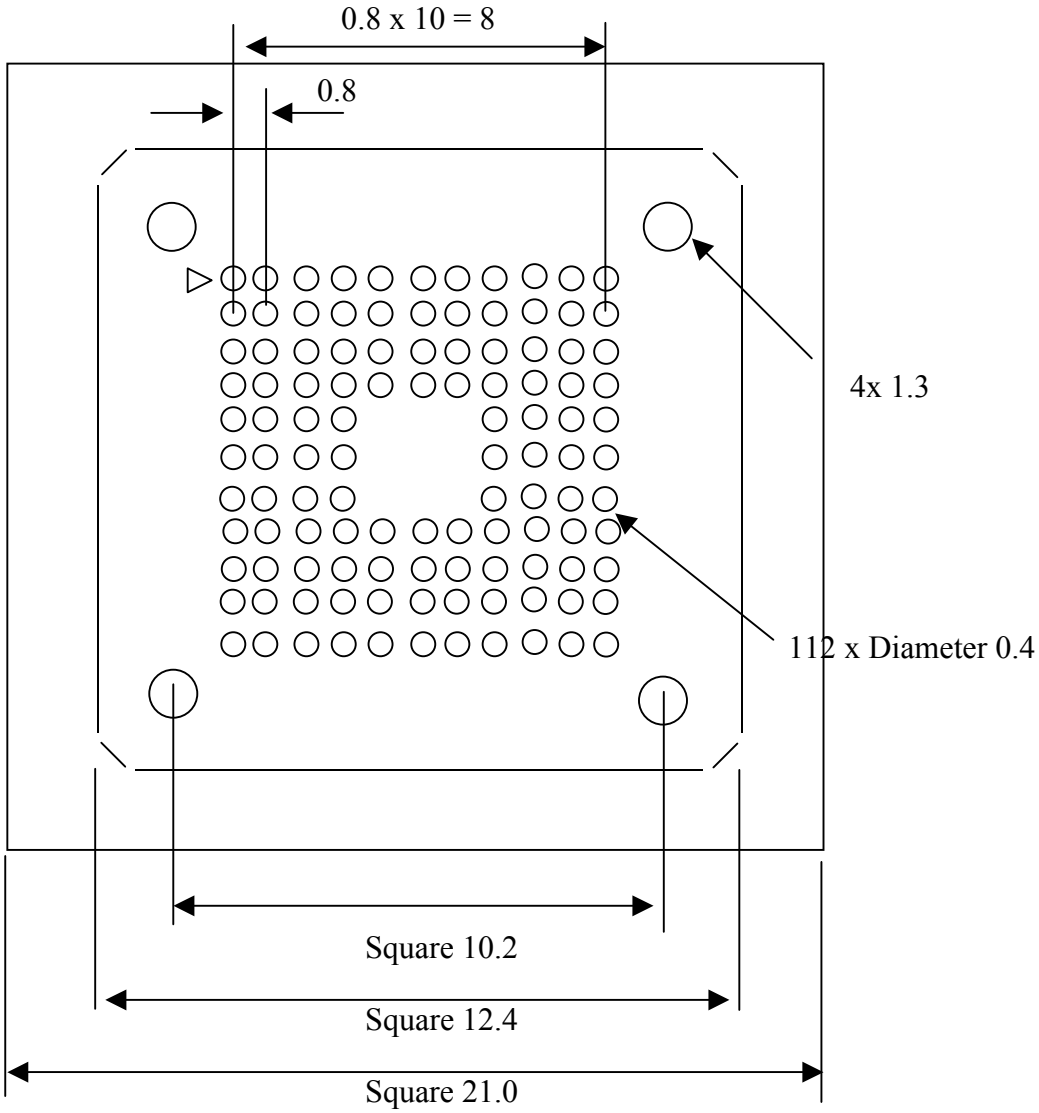

Figure 3.1 PCB Footprint of User System Interface Cable Head

The dimensions of the user system interface cable head are shown in figure 3.2.

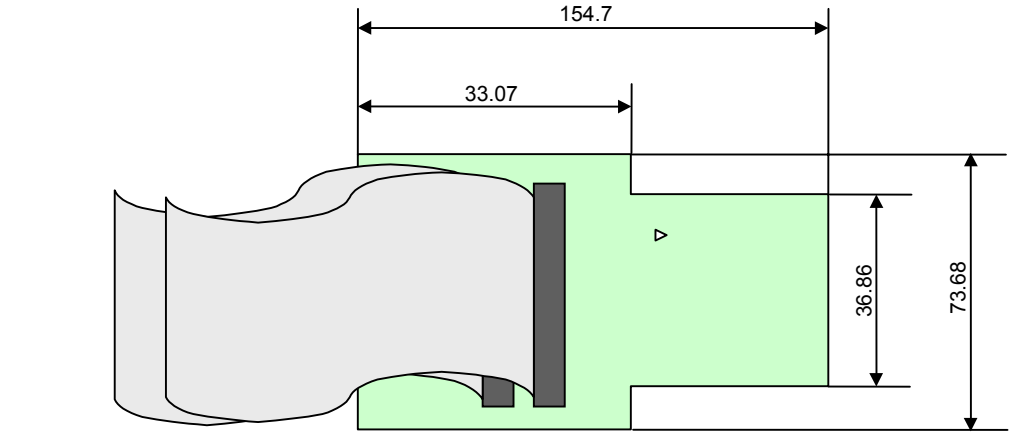

Figure 3.2 User System Interface Cable Head

The dimensions after connecting user system interface cable to the user system are shown in figure 3.3.

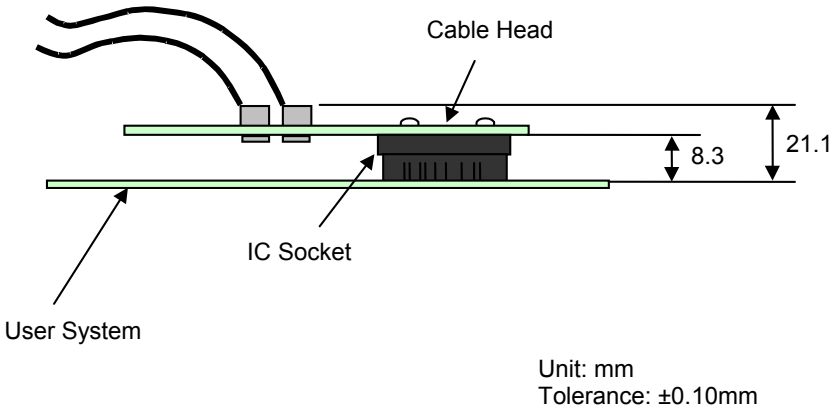

Figure 3.3 Connecting User System Interface Cable to User System

Section 4. Installing MCU to the User System

- Check the location of pin 1 before inserting the MCU into the IC socket on the user system as shown in figure 4.1.
- After inserting the MCU, fasten the socket cover with the four screws provided.
- Take special care, such as manually securing the IC socket soldered area, to prevent the soldered IC socket from being damaged by over-tightening the screws or twisting the component.

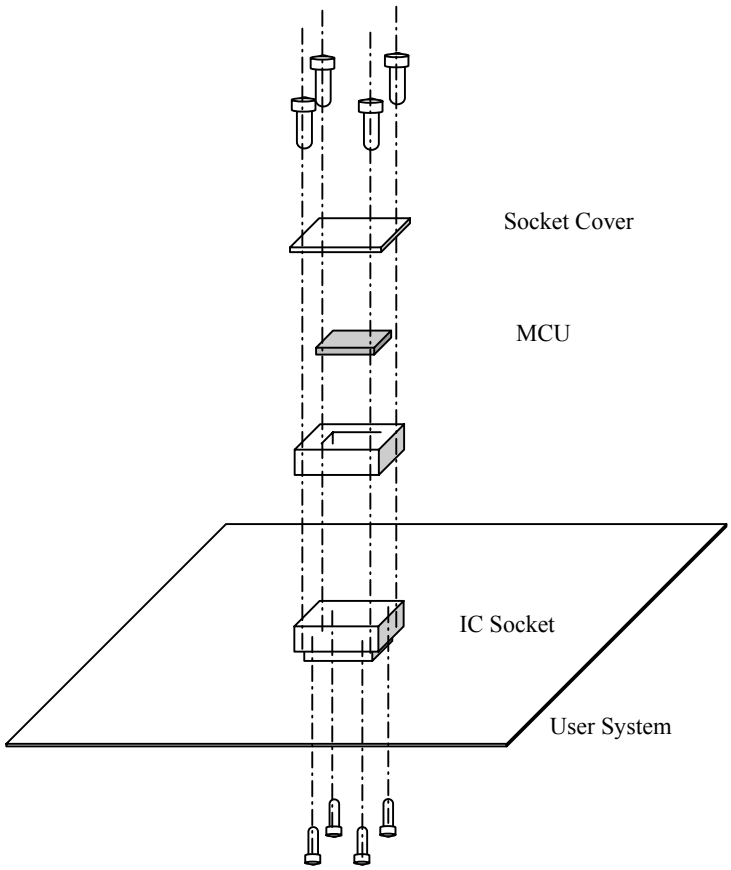

Figure 4.1 Installing MCU to User System

Section 5. Warnings

- Make sure that pin 1 on the IC socket is correctly aligned with pin 1 on the cable head before inserting the cable head into the IC socket on the user system.
- Do not apply excessive force to the user system interface cable while it is connected to the user system.
- The dimensions of the recommended footprint for the IC socket are different from those of the actual chip.
- This user system interface cable is specifically designed for the Compact Emulator. Do not use this cable with any other emulator.

While the emulator is connected to the user system with the user system interface cable, force must not be applied to the cable head.

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H8S Series User System Interface Cable

Renesas System Solutions Asia Pte. Ltd.